Module 13
Sheep and Goat Inspection

Objectives

Upon completion of the sheep and goat inspection module, the trainee will be able to:

1. Select from a list and arrange in sequence the steps of sheep viscera and rail inspection procedures.

2. Given a list of sanitary dressing requirements and a list of sheep dressing procedures, match each dressing procedure with its sanitary dressing requirement.

3. Match each of the following terms with its definition.

   a. sheep log b. breakpoint c. pelt d. ewe

4. Describe the tagging procedure used to retain a carcass and its parts for final veterinary disposition.

5. Select from a list of abnormal or pathological conditions:

   a. The major cause of sheep carcass condemnation.

   b. At least two that are frequently seen during viscera inspection.

   c. At least two that are frequently seen during carcass inspection.

6. Select from a list the suggested method for handling tongues from heads that are not scalped.

7. Select the corrective action required by the inspector for each of a list of improper presentations.

8. Name the visceral organ that is often left in a dressed sheep carcass that is not left in any other species.

9. Select from a list of equipment those that FSIS requires to be sanitized after use on each carcass.

10. Describe the acceptable method for handling carcasses affected with needle grass or wild oats when:

    a. Only a few carcasses in a lot are affected with a few awns.

    b. Most carcasses in a lot have either a few or have many awns.

    c. A few carcasses in a lot have many awns.

11. Write the minimum number of inspection brands required on a "US INSPECTED & PASSED" sheep carcass.

Module 13
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DRESSING PROCEDURES

The overall responsibility of postmortem inspection of sheep begins with stunning operations and ends when the carcass enters the cooler. Unlike other species, sheep do not violently react to the sticking procedure it they are not properly stunned prior to sticking. The inspector therefore will make spot "surveillance" checks of the stunning operations in order to assure compliance with the Humane Slaughter Act. The sticking and bleeding should be accomplished by making as small an opening as possible to prevent contamination o the stick wound. The procedure will vary from plant to plant, but usually a small incision is made behind the ear, severing the artery. Long wool is usually a deterrent to sanitary sticking of sheep. Care must be taken to prevent accidental puncture of the esophagus. A neck contaminated with ingesta would probably go undetected until carcass inspection. Skinning of the head ("scalping") should not be permitted on the bleeding rail. The scalping operation should be done after the pelt or hide is removed, or at least loosened from the rest of the carcass.

The next step in the dressing procedure, legging, is usually accomplished while the carcass is still on the bleeding rail. One back leg is skinned, exposing the hock to allow transfer of the carcass to a trolley or a moving chain. Usually a small tag of skin, used as a handle, is left attached to the end of the hock so that the employee can transfer the leg to the trolley or moving chain without grasping the exposed tissue with a dirty hand. This is a critical step, particularly for the inexperienced or careless employee. The second leg is then released from the shackle and skinned in a manner similar to the first leg. "Hanging off" contamination is usually the result of not using the pelt tag as a "handle" to transfer the leg to the hook.

To prevent contamination of the exposed tissue, the pelt should be reflected away. One method used by plants slaughtering long-wooled or excessively dirty animals is to place a piece of nonabsorbent paper in the thigh region just prior to the second leg being transferred from the shackle. If the plant can demonstrate an alternate procedure to prevent contamination, FSIS will review the procedure for compliance. Refer to MPI Manual of Procedures Part 10.5(a). Of course once the skinning operation begins, the carcasses must not be allowed to contact each other and all employees must be concerned with keeping their hands and equipment clean and avoid touching exposed tissue as much as possible.

Once the hindlegs are skinned and transferred from the shackle, the forelegs are skinned. This is almost always accomplished by attaching the front feet to a spreader that is on a separate rail parallel to the moving chain. This tends to force the carcass into a semi-horizontal position, thereby exposing the neck and breast region. The packinghouse term used to describe this operation is "breasting." At this time the neck,

front of shoulders, and brisket area are skinned. In many plants this is also the point at which the weasand is exposed and tied and the trachea loosened. As the front feet are released from the spreader, the toes are broken and cut off at the "breakjoint" in lambs. This is actually not a joint at all but a cartilage growth plate in the immature bone above the spool joint in young animals. In young animals this cartilage will break easily when stressed. The carcass must have at least one of those breakjoints to be qualified for labeling as a lamb. The toes of older sheep, in which breakjoints have ossified, are cut off at the spool joint of the lower end of the shank bone (metacarpus) in mature sheep (mutton).

Now that the carcass is in the vertical position again, the remaining portion of the pelt is loosened preparatory to total removal. The pelt is loosened at the abdomen. The employee then pushes or punches the hand around the side and up the leg, causing the pelt to separate from the shoulder to finish the "siding or facing" of the carcass. The pelt is now loosened except at the back or rump.

The next step is "rumping." This involves skinning around the anus and vulva and pulling the pelt from the legs and rump. The MPI Manual of Procedures Part 10.5(a)(1) indicates that during the "clearing out" operation, a 1/2 inch circle of hide, free of hair and wool, is to be left around the anus to avoid filling the rectum during carcass washing.

Now an employee usually grasps the pelt near the back legs and literally pulls or jerks the pelt from the carcass down to the head. Care is taken so that the fascia or "fell" is not torn during removal of the pelt. Some plants may use a mechanical pelt puller. This may cause the carcass to be raised to a horizontal position, which could lead to possible urine leakage. To prevent this leakage, a forceps closed over the vulva, or other acceptable means, may be necessary [MPI Manual of Procedures Part 10.5(a)(2)].

Scalping (removal of the pelt from the head) is the last skinning operation. There are several options the plant may choose at this point.

1. They may elect to skin and save the head for edible purposes. The horns must be removed by one of several means, including an ax, a hatchet, a saw, air driven pincher, etc. The device used for horn removal must be sanitized after each use. Generally the head is left attached to the carcass throughout the inspection phase; however, when the head is removed from the carcass prior to inspection it must be identified with its carcass in a manner acceptable to the IIC.

2. If the establishment elects not to save the head for edible purposes, of course neither the horns nor the pelt need to be removed. It is necessary that the head to left attached to the carcass, or if removed, be identified with its carcass until after inspection.

3. Tongues may be saved as edible product from heads not skinned, provided several requirements are fulfilled:

   a. the head is identified with its carcass;

   b. The removal of the tongue will not cause carcass, product, or equipment contamination; and

   c. The tongues must be individually washed.

When a head is saved for edible product, the nasal and oral cavities must be flushed before being placed on worktables or sent by chute to another department.

Carcass washing is to be accomplished before any opening is made other than the incision to tie the weasand. This means of course that this wash is prior to inspection. The washing may be done manually, automatically, or in some cases a combination of both methods. According to the MPI Manual Part 10.5©, folding the tail over the anus helps to prevent water from filling the rectum. When observing the washing operation you should check to see if there is adequate water pressure, and that the water spray is being directed toward the areas most heavily soiled.

After washing the carcass, the bung dropper will cut around the anus and rectum, and if the carcass is a female, the vagina, cutting them loose from their attachments in the pelvic cavity. At the same time, an employee will be opening the brisket. The most commonly used implement in this operation is a large knife driven through the brisket bone by a mallet. The employee would use care not to cut into the paunch. The implement must be sanitized after each use.

The method of opening the abdomen is similar to that used for other species. The knife blade should be pointed outward to prevent cutting the paunch and intestines. The pizzle (males), or the uterus and lactating mammary glands (females), are removed and placed into properly identified containers. The bung and bladder must be removed without contamination of the carcass. The Manual 10.5(d) indicates the employee should strip the large intestine section immediately before the bung, remove the bladder and bung, and complete the evisceration.

Plant employees may use their fingers to tie the severed section of intestine until the evisceration process is completed. When the intestinal contents are in a more liquid form a more secure tie may be required. Once the viscera is removed from the carcass, the viscera is placed in a pan for inspection where it is inspected separately from the carcass. The inspection may be performed in a viscera pan or truck while the carcass is inspected while hung on trolleys. Inspection may also be accomplished on a synchronized moving carcass chain and moving viscera table. With this automated system you should periodically check to be sure both lines are in proper

synchronization. The viscera should be opposite from the carcass from which it was removed.

Periodically check to see that 180 F water is used to sanitize the viscera table and observe the evisceration process and have corrected any procedure that is causing contamination of edible product. When the plan wishes to salvage edible viscera or intestines for casings, a tie should be made at the ileocecal junction before their removal from the table.

The pluck, consisting of the liver, heart and the lungs, is then removed and placed in a separate pan immediately following the viscera (in some operations, in the same pan). The eviscerator, or designated company employee, will make an incision across the bile duct. Review the diagram in the MPI Manual, Part 10.5(e), figure 10.1, to see the exact location of the cut. This cut is mandatory so you can carry out the liver inspection procedures.

The eviscerator will also expose the kidneys for inspection. The spleen is generally left in the sheep carcass. This practice is common only in sheep. The plant must always be consistent in the way the spleen is handled; either it is left in the carcass or it is presented with the viscera.

Locate in the MPI Manual, Part 11.1(j)(1), the following inspection procedures:

VISCERA INSPECTION

1. Observe abdominal viscera, esophagus, mesenteric lymph nodes, and omental fat.

2. Observe bile duct and content and express gall bladder.

3. Observe and palpate liver (both sides) and costal surfaces of lungs.

4. Palpate bronchial and mediastinal lymph nodes.

5. Observe ventral surfaces of lungs.

6. Observe and palpate the heart.

When certain disease conditions are found, the viscera and carcass will be retained for the veterinarian's final disposition. The usual procedure for tagging is to use two small retain tags, each having identical serial numbers. One tag is attached to the viscera, and the other tag to the leading side of the carcass on the hind leg. When an unacceptable or improper presentation occurs, you must evaluate the situation and require the corrective action that you consider necessary.

For example:

> A sheep pluck covered with paunch content is presented to you for inspection. You have been working the assignment all day and this is the first incident to occur today. You would delay your inspection of that pluck until it was cleaned up adequately for inspection. However, it the same situation was occurring frequently, you would have to stop the chain and inform plant management the problem had to be corrected. You should also discuss the problem with the IIC.

Locate in the MPI Manual Part 11.1(j)(2) the following inspection procedure:

CARCASS-HEAD INSPECTION

1. Observe outer surfaces of carcass, body cavities (pelvic, abdominal, thoracic), and spleen.

2. Observe and palpate kidneys.

3. Palpate subiliac, scrotal or mammary, and deep popliteal lymph nodes.

4. Palpate back and sides of carcass.

5. Palpate superficial cervical lymph nodes and shoulders and lift forelegs.

6. Observe neck, shoulders, and head.

Carcasses moved on trolleys (gravity rail) can be pivoted to accomplish the observation procedures, where as carcasses moved on automated chains will have mirrors located behind the carcasses to help accomplish the observation procedures.

Sheep are frequently transported on a sheep log after passing inspection. Because of the size of a sheep carcass, many logs are designed to handle 10 carcasses. The log is supported by two trolleys on the rail. In those plants that have very high rails, one sheep log may be attached to another above, creating a "two-story" log capable of moving 20 carcasses at a time. The usual procedure for attaching carcasses is either to cross the hind legs and make a loop tie through the tendons of both hind legs, or to use an "S" hook to hang them on the sheep log. Because the sheep carcasses do not normally contact the sheep log, sanitation requirements are that the sheep log be maintained free of rust, blood, and corrosion.

Carcasses must be branded as inspected and passed prior to being sent to the cooler. The brand must be applied so that it is legible. Since most lamb and sheep carcasses are not split at this time a minimum or one brand per carcass is required. Lamb and

sheep carcasses (sheep loins pork ribs) are branded with the 3/4 inch brand (#3 brand); goats (and calves) are branded with the 1-1/4 inch brand (#2 brand).

In those plants that shroud carcasses, the same provisions that apply to cattle carcasses are necessary. This includes proper sanitation of the shrouds and shroud pins and the limits of chemical additives for shroud-soaking solutions, which are identified in FSIS Directive 11,000.2.

SHEEP POSTMORTEM INSPECTION AND PATHOLOGY

This script will conclude by discussing some of the more common disease conditions, examples of improper presentations, and a suggested action for you for each. Remember, however, that your primary guide in your work environment is your supervisor. You must rely on this individual to provide you the standards (specific criteria for performance) for all work that you do, because in actual on-the-job situations there will be many variations from plant to plant because of differences in plant size, species slaughtered, volume, plant personnel, etc.

Caseous lymphadenitis is a disease of sheep responsible for over 25 percent of the sheep carcass condemnation each year. Caseous lymphadenitis is a chronic disease (develops over a longer period of time) and therefore the signs and lesions are not seen until after months of infection. Most lamb lots presented for slaughter will not have any evidence of the disease, while many lots of older sheep will have the disease. This bacterial infection results in a disease that produces inflammation (it is) and resulting caseous (cheese-like) abscesses in lymph tissue (and so the name). Lymph nodes are generally affected and that is the reason why so many nodes must be palpated routinely on each carcass. The affected nodes are usually enlarged by abscesses of a greenish-yellow to white colored exudate, which has a cheesy or putty-like consistency. Some older lesions may harden and form numerous layers giving the lymph node an "onion skin" appearance. On postmortem inspection the most common lesions are found in the superficial cervical lymph node (on the forelimb) and the subiliac lymph node (on the hindlimb). As the disease progresses in the animal the visceral organs and lymph nodes become involved. A sheep in the early stages of infection will appear in excellent condition; however, as the disease progresses, gradual weight loss, general weakness, and poor condition develops. At the direction of your supervisor, you will retain the carcass and viscera of certain cases of caseous lymphadenitis for veterinary disposition, while other cases you will have trimmed and passed on the line. Those that you will retain will have more severe and numerous lesions and/or be thinner carcasses, again by the standards set by your supervisor. *Only the veterinarian condemns the carcass.*

The bile duct in the liver is incised to detect the fringed tapeworm. This tapeworm is a parasite that is found in the gall bladder and bile ducts (and occasionally pancreatic ducts) of certain sheep from the western and southwestern parts of the United States. Any livers affected with this parasite are condemned for human food ("US

CONDEMNED") and should be so branded by the inspector. Livers with this type of parasite may be salvaged for pet food as an inedible product, provided they are properly handled.

Nodular worms (*Oesophagostomum* species) are detected during observation of the abdominal viscera. This parasite produces pea-sized firm nodules on the surface of the small and large intestine. As with any other disease condition, you must determine the presence or absence of any other disease, and associated deterioration of the carcass (thinness, a poor carcass, or an otherwise run-down condition) in order to decide whether or not to retain this carcass for veterinary disposition (**rail it out**). If nodular worms are the only abnormality present, condemn the intestinal tract only. Again, correlate your actions with your supervisor's standards.

The thin-necked bladder worm may be detected during postmortem inspection. What is seen commonly are large (3/4 inch or 2 cm), fluid-filled, clear cysts, usually attached to the surfaces of the liver, intestines, mesentery, and omentum. They are frequently also seen in the pelvic cavity. They may also be found within the liver tissue. These cysts may take the form of an active (live) larva (clear soft cyst membrane and clear fluid contents) or may be degenerated (dead) and appear as firm nodules with a scar tissue or calcified consistency. Your actions would be to condemn organs affected with this parasite and have the pelvic cavity trimmed of any affected tissues, again after correlating with your supervisor.

Sheep measles (*Cysticercus ovis*) may be detected. This parasite is similar to the measles found in cattle because it is found in muscle tissue such as the heart, diaphragm, esophagus, or carcass. The cysts are small (about 1/4 inch of 0.6 cm) and may appear as active, clear fluid-filled cysts or the degenerated firm nodules as described above for the bladder worm. Whenever you identify any lesions (one or more) the carcass and parts must be retained for veterinary disposition (**rail it out**).

Hydatid cysts may be found in any mammal *including man*. They are the larval stage of a tapeworm (*Echinococcus granulosis*). They are not commonly encountered in the United States but are most often seen in sheep originating from certain areas of the western US. The cysts are approximately 2-4 inches (5-10 cm) in diameter and may be multi-compartmented. The cysts have a white, thick-walled cyst membrane and contain an amber, clear fluid that may contain sand-like granules. Occasionally, this thick white membrane will have a very slight clearing of the cyst wall, making it almost transparent. The cysts are most often seen in the lungs and/or the liver. Most important is to recognize that this condition does occur and what you are supposed to do if you encounter it. Correlate with your supervisor on your recognition of this disease and the specific action that you are to take if you suspect that you have encountered it. In all cases, affected tissues must be condemned to tankage and never allowed for use in pet foods as is allowed with other parasitized product [Reg. 314.10(a)].

"Sarco" (*Sarcosporidiosis* sp.) is another parasite that may affect sheep. These flat, white parasitic cysts are imbedded in muscle tissue (esophagus, heart, carcass, etc.). They often are described as having a "rice grain" appearance and being "cigar-shaped bodies" about 1/4 inch (0.5 cm) long. They are commonly seen in older sheep from certain parts of the country, but unusual to find in lambs. When this condition is found the carcass and parts are retained for veterinary disposition consistent with your supervisor's standards.

Neoplasia, tumors, or abnormal growths of cells can involve any tissues of the body. This disease process can either be malignant (where cancerous tissues are spread about the body) or benign (the abnormal growth is confined to one area). These growths can be bizarre or subtle changes of size and/or color of tissues and organs. The important thing to remember is that when you encounter (or think you encounter) this type of condition, **always** retain the carcass and parts for veterinary disposition.

Pneumonia is an inflammatory disease in which the normal soft "foamy consistency" feel of the lungs and their normal "light-pinkish" color are changed. Pneumonia can be due to different causes (often a combination of causes: bacteria, viruses, toxins, parasites, stress) and the disease varies in intensity and distribution in the lung. Often pneumonia is found inn the cranial (the front part of the lung in the animal's normal standing position) and ventral (lower part of the lung, standing position) areas; however in other cases the whole lung may be involved. The color change may vary from a bright red, to reddish-brown, to brown, to gray, to white. The change in the consistency or feel of the lung may vary from the normal "foamy feeling" to firm (slightly or moderately or markedly). These changes may be accompanied by the occurrence of abscesses in the lung tissue itself or in the lung's lymph nodes.

With a disease (such as pneumonia) in the lungs, we would expect a reaction (a change) in the lung's lymph nodes because the lymph nodes are powerful immunity barriers protecting the remainder of the body. We see these nodes all about the body: liver, kidney, spleen, etc., may become enlarged; and there may be abscesses in other parts of the body.;

The thoracic (or chest) cavity contains the lungs and heart. This cavity is lined by a very thin membrane called the pleura, which normally has a moist, glistening appearance. In health this membrane is transparent and therefore takes on the color of the tissue that it covers (muscle, bone, etc.). In pneumonia this membrane can become quite inflamed (pleuritis) because of the inflammation in the adjacent lung. The normally moist, glistening appearance might instead appear dry, dull, and be quite reddened or be whitish-colored with adhesions of scar tissue. These areas may be coated with a yellowish to white to greenish inflammatory exudate composed of pus and fibrin. The thorax or chest cavity may contain fluid or pus. Some cases are acute (the fulminating stage of the disease) and some are chronic (becoming arrested by the body's defenses). Pneumonia can be a frequently encountered condition and many times it is quite minor. Therefore numerous decisions need to be made about which of these

cases that you need to retain for veterinary disposition (**rail it out**) and which cases that you would simply condemn the lungs and pass the remainder of the carcass and viscera. It is essential that you consult with your supervisor regarding the standards (specific criteria) that you need to make these decisions.

Nephritis is an inflammatory disease (and can be an infectious disease) of the kidneys. The kidneys may appear enlarged (swollen) or may be partially shrunken with a gristle-type scar tissue in the kidney tissue. Frank abscesses or developing abscesses may be present. Petechiation (as mentioned above) may be seen in a variety of tissues and in a variety of diseases, including nephritis. Petechiation is a hemorrhage from a small blood vessel that may occur in disease. Color changes are often seen in disease of the kidney. The color change may vary from the kidney's normal color to pink, to blood red, to brick-red, to yellow or amber, to dark brown, to almost black. Various-colored radiating streaks can sometimes be seen on the kidney's surface in certain disease states. Many disease conditions of the kidney require that the carcass be retained for veterinary disposition, so consult with your supervisor regarding his/her standards for handling these conditions.

Abscesses, as with any other species, may occur anywhere throughout the viscera and/or carcass. As directed by your supervisor, when this condition is localized, condemn the affected area and pass the reminder of the carcass. However, when it is not localized, retain the carcass and viscera for veterinary disposition. When an abscess has been cut into or opened, there is a real possibility that other parts of the carcass have been contaminated by this pus. Carcasses so contaminated must be trimmed to your satisfaction before you allow it to pass. If the plant can accomplish this with a minimum of interference to their operations and you find their solution acceptable, you can allow operations to proceed; however, if not, you must delay your inspection (or stop operations if necessary) until the problem is corrected.

Arthritis is inflammation of the animal's joints. These are often infected and should not be opened (cut into) on the line. The affected joints will be enlarged and regional lymph nodes generally also are enlarged and may be discolored. Several joints may be involved (polyarthritis), particularly in lambs. Other disease conditions may complicate arthritis, such as septicemia, toxemia, or pyemia. Again, consult with your supervisor about his/her standards for determining which cases you should retain for veterinary disposition.

Emaciation is quite common in older sheep but unusual in lambs. It is the result of starvation and/or disease. The condition is seen primarily in the fatty tissue of the carcass and viscera. This fat loses its normal white color and semi-firm consistency and becomes a darker color (almost brown), with a jelly-like to fluid-like consistency. Fat around the heart seems to be the first area of the body affected. Correlate with your supervisor to determine which cases that you should retain for veterinary disposition, but if only the fat around the heart is affected, don't retain the carcass and

viscera. When you have a case where fat in other areas of the body is affected in addition to the heart, use your supervisor's standards.

All localized conditions like bruises, contamination, adhesions, etc., are to be removed by a plant employee before the carcass enters the cooler. An exception is made in the case of "wild oats," otherwise known as "needle grass or grass awns." These are slender barbed bristles that are a part of the cereal grasses, which become embedded in the subcutaneous tissues of sheep as they graze on pasture. They are black or brown wooden-like slender awns about one-half the size of a wooden toothpick when seen on the carcass. They often can be seen but usually are readily palpable. They are not noticeable on the live animal. They are found generally the subcutaneous tissues over the abdomen (belly) and the thorax (chest) and occasionally on the back and legs. They are found only in certain parts of the country and therefore most lots are totally unaffected. When they are encountered on the production line the carcasses are trimmed*, but when they are trimmed depends on:*

- How extensively the carcasses are affected and the proportion of carcasses in the lot affected and

- The plants' history of cooperation in correcting the problem.

If many of the carcasses (a high proportion) are affected and/or those affected carcasses have numerous grass awns in the tissues, FSIS will allow these carcasses to go into the cooler and be trimmed after cooling **if** the plant will segregate or group all affected carcasses in one cluster. Further, if the plant does not cooperate in this provision, then they must trim all affected carcasses in the presence of the FSIS inspector and before each carcass is passed. If there are just a few grass awns on affected carcasses and only a few (a low proportion) of these affected carcasses in the lot, the plant should trim affected carcasses before they enter the cooler.

This module has not referred specifically to the slaughter and inspection of goats. Since the requirements and inspection procedures in goats are identical to those of sheep, the information on sheep contained herein can be extrapolated to goats.

Module 13
Sheep and Goat Inspection Supplement

The following terms are used in sheep and goat slaughter establishments.

Ewe:	a mature female sheep
Wether:	a castrated male sheep
Ram:	a mature male sheep
Breakjoint:	metacarpal cartilage growth plate, shank bone
Lamb:	an immature sheep; must have at least one "breakjoint" on front leg (metacarpal bone, shank bone)
Pelt:	a sheep's skin
Kid:	an immature goat
Buck:	a mature male goat, sheep, or rabbit
Nanny goat:	a mature female goat
Sheep log:	a rack on which dressed sheep carcasses are hung for chilling

Match the statement on the left to the statement on the right.

___ Skinning operations begin

___ During "clearing out" operations, about 1/2 inch

___ Paper should be used on the thigh region of long wool or

___ During pelt removal care is taken to prevent

___ If the pelt puller raises the carcass to a horizontal position

___ Scalping is performed

___ Horns should be removed at the time of

___ Nasal and oral cavities should be flushed before

___ Overall wash of carcass is accomplished

___ The tail is held down to prevent

___ The bung is not dropped until

1. excessively dirty animals unless the establishment can demonstrate sanitary dressing
2. after pelt is loosened from the carcass
3. before an opening is made in the carcass
4. contamination of carcass by dirty hands, knife, or pelt
5. filling the rectum with water
6. of skin should be left around the anus
7. heads are placed on workup tables or in chutes
8. scalping
9. carcasses of females should be checked for urine leakage
10. at the hind legs
11. washing is completed

Match the statement on the left to the statement on the right.

___ Equipment used to open the brisket must

___ After opening pelvic area, the neck of the bladder and bung should be

___ A section of gut is stripped prior to

___ An incision across the main bile duct

___ Kidneys are

___ Only a few carcasses in the lot are affected with "wild oats" so

___ Most carcasses in the lot are affected with "wild oats" so

___ Bile ducts of livers must be

___ The #3 brand (3/4 inch) shall be used for

___ The #2 brand (1 1/4 inch) shall be used for

1. they should be removed as part of the dressing operation
2. grasped firmly and held until they are clear of the body cavity
3. they may be held in the cooler prior to trimming
4. be sanitized after each use
5. shall be made by the eviscerator
6. exposed for inspection by the plant
7. severing bladder and bung
8. sheep carcasses, loins and ribs of pork
9. goat (and calf) carcasses
10. incised by the establishment

Refer to MPI Guideline No. 5 (lymph nodes of the sheep carcass, internal view, figure 11- page 22) and locate the following:

A. Deep popliteal lymph node

B. Subiliac lymph node

C. Superficial cervical lymph node

D. Mammary, or scrotal lymph node

E. Lumbar aortic lymph nodes

F. Renal lymph node

G. Intercostal lymph nodes

H. Cranial sternal lymph nodes

I. Medial iliac lymph nodes

J. Lateral iliac lymph nodes

Using the illustration mentioned above indicate your action when:

1. A slight (1/4 inch diameter) lesion (abscess) is palpated in a superficial cervical lymph node. This is the only lesion in the carcass and viscera and the carcass appears well-flashed.

2. Slight (1/4 inch diameter) lesions (abscess) are palpated in a superficial cervical lymph node and in a subiliac lymph node. These are the only lesions in the carcass and viscera and the carcass appears well-fleshed.

3. A large (hen's egg size) lesion (abscess) palpated in a superficial cervical lymph node and similar-sized lesion (abscess) is palpated in the lung and in the mediastinal lymph node. These are the only lesions in carcass and viscera the carcass appears well-fleshed.

4. What is the name of the disease that is likely to be responsible for the above abscesses? (This disease also is responsible for most condemnations of sheep carcasses.)

Indicate the course of action you would follow in these circumstances:

1. A few of the sheep carcasses on the line have an occasional grass awn in the subcutaneous tissues along the abdomen, thorax, or legs.

2. Several of the sheep carcasses in this lot are literally covered with grass awns in the subcutaneous tissues.

3. This plant has not fulfilled their obligation to properly segregate sheep carcasses that have grass awns in their subcutaneous tissues that FSIS would ordinarily allow a plant to place in the cooler for later trimming. Today most of the sheep carcasses in the present lot are just covered with grass awns in their subcutaneous tissues.

4. Occasional improper presentation of carcasses [such as small soiled areas, a small patch of loose wool or hide (pelt)].

5. Continual improper presentation [such as small soiled areas, a small patch of loose wool or hide (pelt)].

6. Several clear cysts containing a clear colorless fluid [approximately 3/4 inches (2 cm) in diameter] are seen by the inspector in the pelvic cavity of a sheep carcass. Similar cysts are also present in the liver.

7. The bile duct of a sheep liver contains small white tapeworms. When you express the gall bladder, these tapeworms are evacuated with the bile.

8. Small white "rice grain" sized lesions are seen on the esophagus, intercostal muscles, and diaphragm. What are these and what should you do?

9. You are assigned to a sheep kill where many older animals are slaughtered. The heart fat of this sheep carcass has a watery or gelatinous appearance while the remainder of the body and organ fat is not affected.

10. On postmortem inspection of this sheep carcass, you see small hard nodules (approximately 1/4 inch in diameter) in the heart and diaphragm.

11. You normally inspect cattle and have never inspected anything but cattle. For the next two weeks you are detailed to this sheep kill. The plant seems like a nice place to work except that you have just noticed that the eviscerator (gutter) is not removing the spleen but leaving it in the carcasses.

12. You are assigned to a sheep plant and today the kill finished a little early and you are performing net weight inspection. The boning room foreman had 25 nice looking carcasses that he has partially cut up (breaking) into lamb primal parts. You noticed that each of these carcasses still have both spool joints on the ends of the metacarpal bones (shanks).

From Figure 10.1, Part 10 of the Meat and Poultry Inspection Manual, identify the following:

A. the gall bladder

B. the bile duct

C. the location of the incision that the plant makes to cut through (or incise) the bile duct to prepare the liver for your inspection.

List the carcass inspection procedures for sheep and goats.

1.

2.

3.

4.

5.

6.

List the viscera inspection procedures for sheep and goats.

1.

2.

3.

4.

5.

6.